



IFW16

RAW SEQUENCE LISTING  
PATENT APPLICATION: US/10/031,905

DATE: 08/19/2004  
TIME: 11:40:52

Input Set : A:\PF-0721-PCT (sequence listing).txt  
Output Set: N:\CRF4\08192004\J031905.raw

2 <110> APPLICANT: INCYTE GENOMICS, INC.  
3 TANG, Y. Tom  
4 HILLMAN, Jennifer L.  
5 BANDMAN, Olga  
6 YUE, Henry  
7 BAUGHN, Mariah R.  
8 LAL, Preeti  
9 LU, Dyung Aina M.  
10 SHAH, Purvi  
11 AZIMZAI, Yalda  
W--> 12 <120> TITLE OF INVENTION: HUMAN SYNTHETASES  
W--> 13 <130> FILE REFERENCE: PF-0721 PCT  
W--> 14 <140> CURRENT APPLICATION NUMBER: To Be Assigned  
C--> 15 <141> CURRENT FILING DATE: 2002-01-18  
16 <150> PRIOR APPLICATION NUMBER: 60/144,992; 60,168,858  
W--> 17 <151> PRIOR FILING DATE: 1999-07-22; 1999-12-02  
W--> 18 <160> NUMBER OF SEQ ID: 30  
19 <170> SOFTWARE: PERL Program  
W--> 20 <210> SEQ ID NO: 1  
21 <211> LENGTH: 1176  
22 <212> TYPE: PRT  
23 <213> ORGANISM: Homo sapiens  
W--> 24 <220> FEATURE:  
25 <221> NAME/KEY: misc\_feature  
26 <223> OTHER INFORMATION: Incyte ID No: 1806212CD1  
W--> 27 <400> SEQUENCE: 1  
28 Met Ala Glu Arg Lys Gly Thr Ala Lys Val Asp Phe Leu Lys Lys  
29 1 5 10 15  
30 Ile Glu Lys Glu Ile Gln Gln Lys Trp Asp Thr Glu Arg Val Phe  
31 20 25 30  
32 Glu Val Asn Ala Ser Asn Leu Glu Lys Gln Thr Ser Lys Gly Lys  
33 35 40 45  
34 Tyr Phe Val Thr Phe Pro Tyr Pro Tyr Met Asn Gly Arg Leu His  
35 50 55 60  
36 Leu Gly His Thr Phe Ser Leu Ser Lys Cys Glu Phe Ala Val Gly  
37 65 70 75  
38 Tyr Gln Arg Leu Lys Gly Lys Cys Cys Leu Phe Pro Phe Gly Leu  
39 80 85 90  
40 His Cys Thr Gly Met Pro Ile Lys Ala Cys Ala Asp Lys Leu Lys  
41 95 100 105  
42 Arg Glu Ile Glu Leu Tyr Gly Cys Pro Pro Asp Phe Pro Asp Glu  
43 110 115 120  
44 Glu Glu Glu Glu Glu Glu Thr Ser Val Lys Thr Glu Asp Ile Ile

ENTERED

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45	125	130	135
46	Ile Lys Asp Lys Ala Lys Gly Lys Lys Ser Lys Ala Ala Ala Lys		
47	140	145	150
48	Ala Gly Ser Ser Lys Tyr Gln Trp Gly Ile Met Lys Ser Leu Gly		
49	155	160	165
50	Leu Ser Asp Glu Glu Ile Val Lys Phe Ser Glu Ala Glu His Trp		
51	170	175	180
52	Leu Asp Tyr Phe Pro Pro Leu Ala Ile Gln Asp Leu Lys Arg Met		
53	185	190	195
54	Gly Leu Lys Val Asp Trp Arg Arg Ser Phe Ile Thr Thr Asp Val		
55	200	205	210
56	Asn Pro Tyr Tyr Asp Ser Phe Val Arg Trp Gln Phe Leu Thr Leu		
57	215	220	225
58	Arg Glu Arg Asn Lys Ile Lys Phe Gly Lys Arg Tyr Thr Ile Tyr		
59	230	235	240
60	Ser Pro Lys Asp Gly Gln Pro Cys Met Asp His Asp Arg Gln Thr		
61	245	250	255
62	Gly Glu Gly Val Gly Pro Gln Glu Tyr Thr Leu Leu Lys Leu Lys		
63	260	265	270
64	Val Leu Glu Pro Tyr Pro Ser Lys Leu Ser Gly Leu Lys Gly Lys		
65	275	280	285
66	Asn Ile Phe Leu Val Ala Ala Thr Leu Arg Pro Glu Thr Met Phe		
67	290	295	300
68	Gly Gln Thr Asn Cys Trp Val Arg Pro Asp Met Lys Tyr Ile Gly		
69	305	310	315
70	Phe Glu Thr Val Asn Gly Asp Ile Phe Ile Cys Thr Gln Lys Ala		
71	320	325	330
72	Ala Arg Asn Met Ser Tyr Gln Gly Phe Thr Lys Asp Asn Gly Val		
73	335	340	345
74	Val Pro Val Val Lys Glu Leu Met Gly Glu Glu Ile Leu Gly Ala		
75	350	355	360
76	Ser Leu Ser Ala Pro Leu Thr Ser Tyr Lys Val Ile Tyr Val Leu		
77	365	370	375
78	Pro Met Leu Thr Ile Lys Glu Asp Lys Gly Thr Gly Val Val Thr		
79	380	385	390
80	Ser Val Pro Ser Asp Ser Pro Asp Asp Ile Ala Ala Leu Arg Asp		
81	395	400	405
82	Leu Lys Lys Lys Gln Ala Leu Arg Ala Lys Tyr Gly Ile Arg Asp		
83	410	415	420
84	Asp Met Val Leu Pro Phe Glu Pro Val Pro Val Ile Glu Ile Pro		
85	425	430	435
86	Gly Phe Gly Asn Leu Ser Ala Val Thr Ile Cys Asp Glu Leu Lys		
87	440	445	450
88	Ile Gln Ser Gln Asn Asp Arg Glu Lys Leu Ala Glu Ala Lys Glu		
89	455	460	465
90	Lys Ile Tyr Leu Lys Gly Phe Tyr Glu Gly Ile Met Leu Val Asp		
91	470	475	480
92	Gly Phe Lys Gly Gln Lys Val Gln Asp Val Lys Lys Thr Ile Gln		
93	485	490	495

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94 Lys Lys Met Ile Asp Ala Gly Asp Ala Leu Ile Tyr Met Glu Pro  
95 500 505 510  
96 Glu Lys Gln Val Met Ser Arg Ser Ser Asp Glu Cys Val Val Ala  
97 515 520 525  
98 Leu Cys Asp Gln Trp Tyr Leu Asp Tyr Gly Glu Glu Asn Trp Lys  
99 530 535 540  
100 Lys Gln Thr Ser Gln Cys Leu Lys Asn Leu Glu Thr Phe Cys Glu  
101 545 550 555  
102 Glu Thr Arg Arg Asn Phe Glu Ala Thr Leu Gly Trp Leu Gln Glu  
103 560 565 570  
104 His Ala Cys Ser Arg Thr Tyr Gly Leu Gly Thr His Leu Pro Trp  
105 575 580 585  
106 Asp Glu Gln Trp Leu Ile Glu Ser Leu Ser Asp Ser Thr Ile Tyr  
107 590 595 600  
108 Met Ala Phe Tyr Thr Val Ala His Leu Leu Gln Gly Gly Asn Leu  
109 605 610 615  
110 His Gly Gln Ala Glu Ser Pro Leu Gly Ile Arg Pro Gln Gln Met  
111 620 625 630  
112 Thr Lys Glu Val Trp Asp Tyr Val Phe Phe Lys Glu Ala Pro Phe  
113 635 640 645  
114 Pro Lys Thr Gln Ile Ala Lys Glu Lys Leu Asp Gln Leu Lys Gln  
115 650 655 660  
116 Glu Phe Glu Phe Trp Tyr Pro Val Asp Leu Arg Val Ser Gly Lys  
117 665 670 675  
118 Asp Leu Val Pro Asn His Leu Ser Tyr Tyr Leu Tyr Asn His Val  
119 680 685 690  
120 Ala Met Trp Pro Glu Gln Ser Asp Lys Trp Pro Thr Ala Val Arg  
121 695 700 705  
122 Ala Asn Gly His Leu Leu Leu Asn Ser Glu Lys Met Ser Lys Ser  
123 710 715 720  
124 Thr Gly Asn Phe Leu Thr Leu Thr Gln Ala Ile Asp Lys Phe Ser  
125 725 730 735  
126 Ala Asp Gly Met Arg Leu Ala Leu Ala Asp Ala Gly Asp Thr Val  
127 740 745 750  
128 Glu Asp Ala Asn Phe Val Glu Ala Met Ala Asp Ala Gly Ile Leu  
129 755 760 765  
130 Arg Leu Tyr Thr Trp Val Glu Trp Val Lys Glu Met Val Ala Asn  
131 770 775 780  
132 Trp Asp Ser Leu Arg Ser Gly Pro Ala Ser Thr Phe Asn Asp Arg  
133 785 790 795  
134 Val Phe Ala Ser Glu Leu Asn Ala Gly Ile Ile Lys Thr Asp Gln  
135 800 805 810  
136 Asn Tyr Glu Lys Met Met Phe Lys Glu Ala Leu Lys Thr Gly Phe  
137 815 820 825  
138 Phe Glu Phe Gln Ala Ala Lys Asp Lys Tyr Arg Glu Leu Ala Val  
139 830 835 840  
140 Glu Gly Met His Arg Glu Leu Val Phe Arg Phe Ile Glu Val Gln  
141 845 850 855  
142 Thr Leu Leu Ala Pro Phe Cys Pro His Leu Cys Glu His Ile

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143 860 865 870  
 144 Trp Thr Leu Leu Gly Lys Pro Asp Ser Ile Met Asn Ala Ser Trp  
 145 875 880 885  
 146 Pro Val Ala Gly Pro Val Asn Glu Val Leu Ile His Ser Ser Gln  
 147 890 895 900  
 148 Tyr Leu Met Glu Val Thr His Asp Leu Arg Leu Arg Leu Lys Asn  
 149 905 910 915  
 150 Tyr Met Met Pro Ala Lys Gly Lys Lys Thr Asp Lys Gln Pro Leu  
 151 920 925 930  
 152 Gln Lys Pro Ser His Cys Thr Ile Tyr Val Ala Lys Asn Tyr Pro  
 153 935 940 945  
 154 Pro Trp Gln His Thr Thr Leu Ser Val Leu Arg Lys His Phe Glu  
 155 950 955 960  
 156 Ala Asn Asn Gly Lys Leu Pro Asp Asn Lys Val Ile Ala Ser Glu  
 157 965 970 975  
 158 Leu Gly Ser Met Pro Glu Leu Lys Lys Tyr Met Lys Lys Val Met  
 159 980 985 990  
 160 Pro Phe Val Ala Met Ile Lys Glu Asn Leu Glu Lys Met Gly Pro  
 161 995 1000 1005  
 162 Arg Ile Leu Asp Leu Gln Leu Glu Phe Asp Glu Lys Ala Val Leu  
 163 1010 1015 1020  
 164 Met Glu Asn Ile Val Tyr Leu Thr Asn Ser Leu Glu Leu Glu His  
 165 1025 1030 1035  
 166 Ile Glu Val Lys Phe Ala Ser Glu Ala Glu Asp Lys Ile Arg Glu  
 167 1040 1045 1050  
 168 Asp Cys Cys Pro Gly Lys Pro Leu Asn Val Phe Arg Ile Glu Pro  
 169 1055 1060 1065  
 170 Gly Val Ser Val Ser Leu Val Asn Pro Gln Pro Ser Asn Gly His  
 171 1070 1075 1080  
 172 Phe Ser Thr Lys Ile Glu Ile Arg Gln Gly Asp Asn Cys Asp Ser  
 173 1085 1090 1095  
 174 Ile Ile Arg Arg Leu Met Lys Met Asn Arg Gly Ile Lys Asp Leu  
 175 1100 1105 1110  
 176 Ser Lys Val Lys Leu Met Arg Phe Asp Asp Pro Leu Leu Gly Pro  
 177 1115 1120 1125  
 178 Arg Arg Val Pro Val Leu Gly Lys Glu Tyr Thr Glu Lys Thr Pro  
 179 1130 1135 1140  
 180 Ile Ser Glu His Ala Val Phe Asn Val Asp Leu Met Ser Lys Lys  
 181 1145 1150 1155  
 182 Ile His Leu Thr Glu Asn Gly Ile Arg Val Asp Ile Gly Asp Thr  
 183 1160 1165 1170  
 184 Ile Ile Tyr Leu Val His  
 185 1175  
 186 <210> SEQ ID NO: 2  
 187 <211> LENGTH: 739  
 188 <212> TYPE: PRT  
 189 <213> ORGANISM: Homo sapiens  
 W--> 190 <220> FEATURE:  
 191 <221> NAME/KEY: misc\_feature

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192 <223> OTHER INFORMATION: Incyte ID No: 2083883CD1  
W--> 193 <400> SEQUENCE: 2  
194 Met Asp Ala Leu Lys Pro Pro Cys Leu Trp Arg Asn His Glu Arg  
195 1 5 10 15  
196 Gly Lys Lys Asp Arg Asp Ser Cys Gly Arg Lys Asn Ser Glu Pro  
197 20 25 30  
198 Gly Ser Pro His Ser Leu Glu Ala Leu Arg Asp Ala Ala Pro Ser  
199 35 40 45  
200 Gln Gly Leu Asn Phe Leu Leu Phe Thr Lys Met Leu Phe Ile  
201 50 55 60  
202 Phe Asn Phe Leu Phe Ser Pro Leu Pro Thr Pro Ala Leu Ile Cys  
203 65 70 75  
204 Ile Leu Thr Phe Gly Ala Ala Ile Phe Leu Trp Leu Ile Thr Arg  
205 80 85 90  
206 Pro Gln Pro Val Leu Pro Leu Leu Asp Leu Asn Asn Gln Ser Val  
207 95 100 105  
208 Gly Ile Glu Gly Gly Ala Arg Lys Gly Val Ser Gln Lys Asn Asn  
209 110 115 120  
210 Asp Leu Thr Ser Cys Cys Phe Ser Asp Ala Lys Thr Met Tyr Glu  
211 125 130 135  
212 Val Phe Gln Arg Gly Leu Ala Val Ser Asp Asn Gly Pro Cys Leu  
213 140 145 150  
214 Gly Tyr Arg Lys Pro Asn Gln Pro Tyr Arg Trp Leu Ser Tyr Lys  
215 155 160 165  
216 Gln Val Ser Asp Arg Ala Glu Tyr Leu Gly Ser Cys Leu Leu His  
217 170 175 180  
218 Lys Gly Tyr Lys Ser Ser Pro Asp Gln Phe Val Gly Ile Phe Ala  
219 185 190 195  
220 Gln Asn Arg Pro Glu Trp Ile Ile Ser Glu Leu Ala Cys Tyr Thr  
221 200 205 210  
222 Tyr Ser Met Val Ala Val Pro Leu Tyr Asp Thr Leu Gly Pro Glu  
223 215 220 225  
224 Ala Ile Val His Ile Val Asn Lys Ala Asp Ile Ala Val Val Ile  
225 230 235 240  
226 Cys Asp Thr Pro Gln Lys Ala Leu Val Leu Ile Gly Asn Val Glu  
227 245 250 255  
228 Lys Gly Phe Thr Pro Ser Leu Lys Val Ile Ile Leu Met Asp Pro  
229 260 265 270  
230 Phe Asp Asp Asp Leu Lys Gln Arg Gly Glu Lys Ser Gly Ile Glu  
231 275 280 285  
232 Ile Leu Ser Leu Tyr Asp Ala Glu Asn Leu Gly Lys Glu His Phe  
233 290 295 300  
234 Arg Lys Pro Val Pro Pro Ser Pro Glu Asp Leu Ser Val Ile Cys  
235 305 310 315  
236 Phe Thr Ser Gly Thr Thr Gly Asp Pro Lys Gly Ala Met Ile Thr  
237 320 325 330  
238 His Gln Asn Ile Val Ser Asn Ala Ala Ala Phe Leu Lys Cys Val  
239 335 340 345  
240 Glu His Ala Tyr Glu Pro Thr Pro Asp Asp Val Ala Ile Ser Tyr

RAW SEQUENCE LISTING ERROR SUMMARY  
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Please Note:

Use of n and/or Xaa have been detected in the Sequence Listing. Please review the Sequence Listing to ensure that a corresponding explanation is presented in the <220> to <223> fields of each sequence which presents at least one n or Xaa.

Seq#:12; Xaa Pos. 63,64,65

Seq#:27; N Pos. 193,196,197,198

VERIFICATION SUMMARY  
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Input Set : A:\PF-0721-PCT (sequence listing).txt  
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L:12 M:283 W: Missing Blank Line separator, <120> field identifier  
L:13 M:283 W: Missing Blank Line separator, <130> field identifier  
L:14 M:283 W: Missing Blank Line separator, <140> field identifier  
L:14 M:270 C: Current Application Number differs, Replaced Current Application Number  
L:15 M:271 C: Current Filing Date differs, Replaced Current Filing Date  
L:17 M:256 W: Invalid Numeric Header Field, Wrong Prior FILING DATE:YYYY-MM-DD  
L:18 M:283 W: Missing Blank Line separator, <160> field identifier  
L:20 M:283 W: Missing Blank Line separator, <210> field identifier  
L:24 M:283 W: Missing Blank Line separator, <220> field identifier  
L:27 M:283 W: Missing Blank Line separator, <400> field identifier  
L:190 M:283 W: Missing Blank Line separator, <220> field identifier  
L:193 M:283 W: Missing Blank Line separator, <400> field identifier  
L:298 M:283 W: Missing Blank Line separator, <220> field identifier  
L:301 M:283 W: Missing Blank Line separator, <400> field identifier  
L:386 M:283 W: Missing Blank Line separator, <220> field identifier  
L:389 M:283 W: Missing Blank Line separator, <400> field identifier  
L:416 M:283 W: Missing Blank Line separator, <220> field identifier  
L:419 M:283 W: Missing Blank Line separator, <400> field identifier  
L:510 M:283 W: Missing Blank Line separator, <220> field identifier  
L:513 M:283 W: Missing Blank Line separator, <400> field identifier  
L:606 M:283 W: Missing Blank Line separator, <220> field identifier  
L:609 M:283 W: Missing Blank Line separator, <400> field identifier  
L:712 M:283 W: Missing Blank Line separator, <220> field identifier  
L:715 M:283 W: Missing Blank Line separator, <400> field identifier  
L:806 M:283 W: Missing Blank Line separator, <220> field identifier  
L:809 M:283 W: Missing Blank Line separator, <400> field identifier  
L:882 M:283 W: Missing Blank Line separator, <220> field identifier  
L:885 M:283 W: Missing Blank Line separator, <400> field identifier  
L:956 M:283 W: Missing Blank Line separator, <220> field identifier  
L:959 M:283 W: Missing Blank Line separator, <400> field identifier  
L:1000 M:283 W: Missing Blank Line separator, <220> field identifier  
L:1003 M:283 W: Missing Blank Line separator, <220> field identifier  
L:1007 M:283 W: Missing Blank Line separator, <400> field identifier  
L:1016 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:12 after pos.:60  
L:1086 M:283 W: Missing Blank Line separator, <220> field identifier  
L:1089 M:283 W: Missing Blank Line separator, <400> field identifier  
L:1156 M:283 W: Missing Blank Line separator, <220> field identifier  
L:1159 M:283 W: Missing Blank Line separator, <400> field identifier  
L:1218 M:283 W: Missing Blank Line separator, <220> field identifier  
L:1221 M:283 W: Missing Blank Line separator, <400> field identifier  
L:1272 M:283 W: Missing Blank Line separator, <220> field identifier  
L:1275 M:283 W: Missing Blank Line separator, <400> field identifier  
L:1346 M:283 W: Missing Blank Line separator, <220> field identifier  
L:1349 M:283 W: Missing Blank Line separator, <400> field identifier  
L:1410 M:283 W: Missing Blank Line separator, <220> field identifier  
L:1413 M:283 W: Missing Blank Line separator, <400> field identifier  
L:1451 M:283 W: Missing Blank Line separator, <220> field identifier  
L:1454 M:283 W: Missing Blank Line separator, <400> field identifier

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L:1495 M:283 W: Missing Blank Line separator, <220> field identifier  
L:1498 M:283 W: Missing Blank Line separator, <400> field identifier  
L:1543 M:283 W: Missing Blank Line separator, <220> field identifier  
L:1546 M:283 W: Missing Blank Line separator, <400> field identifier  
L:1587 M:283 W: Missing Blank Line separator, <220> field identifier  
L:1590 M:283 W: Missing Blank Line separator, <400> field identifier  
L:1801 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:27 after pos.:180